Milan (Italy)

ICS Symbiosis

SAFE WATERPROOFING OF THE ROOFS WITH POLYGLASS PRODUCTS

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The roofs were waterproofed with a complete system by Polyglass, made up of POLYPRIMER, POLYVAP RADONSHIELD P-AL, and FUTURA RS P.

The ICS Milan International School is part of Globeducate, one of the major networks of international schools in the world with more than 50 premium schools educating over 25,000 students in 60 countries. Their mission is to provide an extended community of students of different nationalities, cultures and backgrounds with a complete educational experience. The school has 4 campuses in the Milan area, one of which is the ICS Symbiosis for students from 4 to 18 years of age. It extends over a surface of 10,000 m² in Porta Romana, a district undergoing considerable transformation, and is committed, together with Milan City Council, to making this part of the city a cultural district in every sense of the word.

The building was designed by Barreca & La Varra (who also designed as Boeri Studio the multi award-winning Vertical Forest) after listening to the answers from children who, when asked "What would your ideal school be like?", said they were looking for a space that is alive and creative, a place where they can meet up and experiment, even after the bell has been rung. And this is precisely why ICS Symbiosis has areas dedicated to socialising away from the classroom environment and communal spaces, such as the indoor gymnasium and semi-Olympic indoor swimming pool (25 m), while the external area of around 6,000 m² has a polyfunctional playing field.

Waterproofing for the roofs

The design of the ICS Symbiosis building specified the use of waterproofing materials that meet the most rigorous market criteria in terms of quality and comply with current norms and standards. Polyglass SpA, a subsidiary of the Mapei Group, supplied the materials to waterproof the roofs, for a total area of around 5,400 m².

The first step was to apply a coat of rapid-drying, solvent-based bituminous POLYPRIMER, which is used as an adhesion promoter to block the dusty and porous nature typical of concrete surfaces so that distilled polymer-bitumen membranes can be applied more quickly. This product was also chosen for its rapid-drying and excellent penetration properties and because it bonds so well to substrates.

The next step was to apply POLYVAP RADONSHIELD P-AL membrane, which acts as a vapour barrier. This membrane is made from a special distilled bitumen compound modified with polypropylene, reinforced with a stabilized polyester nonwoven composite carrier laminated with aluminium foil. Thanks to its high technological content, POLYVAP RADONSHIELD P-AL has the capacity to preserve thermal insulation and ensure the overall functionality of a waterproofing system. It is used especially in the case of high levels of relative humidity in order to eliminate, or reduce, the formation of condensation within the system and prevent the entire waterproofing solution being compromised.

To complete the system, a thermal insulation panel made of rigid, closed-cell polyurethane foam, was added between two supports: the one on the top is made of bituminized glass fiber and the one at the bottom is made of saturated mineralized glass fiber. Finally a double layer of FUTURA RS P membrane was applied. The special distilled bitumen compound modified with polypropylene (APP) and polyolefin (APAO/TPO) and the mechanical properties of the reinforcement (excellent elongation and tensile strength) make this type of membrane suitable for even the most demanding areas of use.

Also, the special formulation guarantees unique characteristics in terms of flexibility at low temperatures (flexible down to -25°C), making the waterproofing system more durable and long-lasting.

Lastly, because of the type of use of the roof, industrial flooring was installed incorporating a double separation layer of LDPE film.

Through the supply of reliable, cutting-edge waterproofing materials, Polyglass SpA took part in this project of high architectonic significance, guaranteeing protection and comfort for all the rooms in the school.

Find out more
POLYVAP RADONSHIELD P-AL

TECHNICAL DATA
ICS Symbiosis school, Milan (Italy)
Period of construction: 2018-2020
Owner: Covivio Saas – ICS Milan International School
Intervention by Polyglass: 2020
Design: Barreca & La Varra
Main contractors: Setten Genesio SpA, Bouygues E&S InTec Italia SpA, Metalsigma Tunesi SpA
Waterproofing contractor: Norkos Imp. Srl

Polyglass coordination: Technical Support, Polyglass SpA (Mapei Group)
Photos: Barecca & La Varra, Valter Repossi

POLYGLASS PRODUCTS
Waterproofing roofs:
Polyprimer, Polyvap Radonshield P-AL, Futura RS P

polyglass.com
mapei.com